Abstract

Carbon nanotube circuits are implemented with high-κ dielectrics. According to one example embodiment of the present invention, a carbon nanotube circuit includes at least one carbon nanotube with a high-κ dielectric material. In one implementation, a gate electrode is capacitively coupled to the carbon nanotube via the high-κ dielectric material. Voltage applied to the gate electrode is thus capacitively coupled to the carbon nanotube to control, for example, electrical characteristics of the carbon nanotube. With this approach, the carbon nanotube circuit exhibits voltage-controllable characteristics that can be used for a variety of implementations.